

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (*Currently Amended*) A system for producing an image of a patient, comprising:

a source of fluid medium;

a pressurizing unit ~~operably associated with the source of fluid medium for injecting the fluid medium~~ configured to increase pressure of the fluid medium being injected into the patient;

an imaging unit providing an internal image of the patient based upon a condition of the fluid medium in the patient;

an electronic interface that enables information input and output;

a control unit adapted to adjust the condition of the fluid medium injected into the patient, the control unit being communicatively coupled to the electronic interface and the pressurizing unit; and

~~an electronic interface in communication with at least one of the pressurizing unit and the imaging unit; and~~

a hospital information system that provides information about the patient,

wherein the electronic interface is configured to communicate with the pressurizing unit, the imaging unit, and the hospital information system ~~operably associated with the electronic interface.~~

2. (*Original*) The system of claim 1 wherein the fluid medium is a contrast medium.

3. (*Original*) The system of claim 2 wherein the contrast medium is ultrasound contrast.

4. *(Original)* The system of claim 1 wherein the condition of the fluid medium in the patient corresponds to at least one parameter selected from the group of concentration, flow rate and volume.

5. *(Original)* The system of claim 1 wherein the condition of the fluid medium is concentration.

6. *(Original)* The system of claim 1 wherein the pressurizing unit is adapted to inject at least one bolus of the fluid medium into the patient.

7. – 8. *(Cancelled)*.

9. *(Original)* The system of claim 1, further comprising a concentration measurement device operable to measure the concentration of the fluid medium

10. *(Currently Amended)* The system of claim 1, further comprising a source of diluent ~~operably associated with the pressurizing unit.~~

11. *(Original)* The system of claim 1 wherein the pressurizing unit comprises a pump.

12. *(Original)* The system of claim 10, further comprising a mixer for mixing the fluid medium and the diluent.

13. *(Previously Presented)* The system of claim 1, further comprising a fluid path connected to the pressurizing unit for delivering the fluid medium to the patient.

14. *(Original)* The system of claim 13, further comprising a filter disposed in the fluid path.

15. *(Original)* The system of claim 13, further comprising a back-flow valve disposed in the fluid path.

16. *(Original)* The system of claim 13, further comprising a fluid assurance detector in the fluid path.

17. – 19. *(Cancelled)*.

20. *(Currently Amended)* A system for producing an image of a patient, comprising:

a source of fluid medium;

a pressurizing unit ~~operably associated with the source of fluid medium for injecting the fluid medium~~ configured to increase pressure of the fluid medium being injected into the patient;

an imaging unit providing an internal image of the patient based upon a condition of the contrast medium in the patient;

an electronic interface that enables information input and output;

a control unit adapted to adjust the condition of the fluid medium injected into the patient, the control unit being communicatively coupled to the electronic interface and the pressurizing unit;

a fluid path connected to the pressurizing unit for delivering the fluid medium to the patient; ~~and~~

a back-flow valve disposed in the fluid path and adapted to substantially prevent contaminants from the patient from migrating upstream through the fluid path to the pressurizing unit or the source of fluid medium[[]]; and

a hospital information system that provides information about the patient,

wherein the electronic interface is configured to communicate with the pressurizing unit, the imaging unit, and the hospital information system.

21. – 26. *(Cancelled)*.

27. *(Previously Presented)* The system of Claim 20 wherein the fluid medium is ultrasound contrast.

28. *(Previously Presented)* The system of Claim 20 wherein the condition of the fluid medium in the patient corresponds to at least one parameter selected from the group of concentration, flow rate and volume.

29. *(Previously Presented)* The system of Claim 20, further comprising a concentration measurement device operable to measure the concentration of the fluid medium

30. *(Currently Amended)* The system of Claim 20, further comprising a source of diluent ~~operably associated with the pressurizing unit.~~

31. *(Previously Presented)* The system of Claim 20 wherein the pressurizing unit comprises a pump.

32. *(Currently Amended)* The system of Claim ~~20~~ 30, further comprising a mixer for mixing the fluid medium and the diluent.

33. *(Previously Presented)* The system of Claim 20, further comprising a filter disposed in the fluid path.

34. *(Previously Presented)* The system of Claim 20, further comprising a fluid assurance detector in the fluid path.

35. (*Currently Amended*) A system for producing an image of a patient, comprising:

a source of fluid medium;

a source of diluent;

at least one pressurizing unit ~~operably associated with the source of fluid medium and the source of diluent~~ configured to increase pressure of the fluid medium being injected into the patient;

an imaging unit providing an internal image of the patient based upon a condition of the fluid medium in the patient;

an electronic interface that enables information input and output;

a control unit adapted to adjust the condition of the fluid medium injected into the patient, the control unit being communicatively coupled to the electronic interface and the pressurizing unit;

a fluid path connected to the at least one pressurizing unit for delivering the fluid medium to the patient;

a fluid assurance detector in the fluid path; and

~~an electronic interface in communication with at least one of the at least one pressurizing unit and the imaging unit; and~~

a hospital information system that provides information about the patient,

wherein the electronic interface is configured to communicate with the pressurizing unit, the imaging unit, and the hospital information system operably associated with the electronic interface.

36. (*Previously Presented*) The system of Claim 35 wherein the fluid medium is a contrast medium.

37. (*Previously Presented*) The system of Claim 35 wherein the condition of the fluid medium in the patient corresponds to at least one parameter selected from the group of concentration, flow rate and volume.

38. – 39. (*Cancelled*).

40. (*Previously Presented*) The system of Claim 35, further comprising a concentration measurement device operable to measure the concentration of the fluid medium.

41. (*Cancelled*).

42. (*Previously Presented*) The system of Claim 35 wherein the at least one pressurizing unit comprises a pump.

43. (*Original*) The system of Claim 35, further comprising a mixer for mixing the fluid medium and the diluent.

44. (*Previously Presented*) The system of Claim 35, further comprising a filter disposed in the fluid path.

45. (*Cancelled*).

46. (*New*) The system of Claim 1, further comprising a heating element to adjust the temperature of the fluid medium injected into the patient.

47. (*New*) The system of Claim 1, further comprising a first pump to configured to draw the fluid medium from the fluid medium source.

48. (*New*) The system of Claim 10, further comprising a second pump to configured to draw the diluent from the diluent source.

49. (*New*) The system of Claim 20, further comprising a heating element to adjust the temperature of the fluid medium injected into the patient.

50. *(New)* The system of Claim 20, further comprising a first pump to configured to draw the fluid medium from the fluid medium source.

51. *(New)* The system of Claim 30, further comprising a second pump to configured to draw the diluent from the diluent source.

52. *(New)* The system of Claim 35, further comprising a heating element to adjust the temperature of the fluid medium injected into the patient.

53. *(New)* The system of Claim 35, wherein the at least one pressurizing unit includes a first pump to draw the fluid medium from the fluid medium source.

54. *(New)* The system of Claim 35, wherein the at least one pressurizing unit includes a second pump to draw the diluent from the diluent source.